

Energy efficient homes linked to asthma

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Obstruction of the lumen of a bronchiole by mucoid exudate, goblet cell metaplasia, and epithelial basement membrane thickening in a person with asthma. Credit: Yale Rosen/Wikipedia/CC BY-SA 2.0

The drive for energy efficient homes could increase asthma risks, according to new research.

Led by a team at the University of Exeter Medical School, the research has found that a failure by residents to heat and ventilate retrofitted properties could lead to more people developing the respiratory



condition.

Working with leading UK social housing provider, Coastline Housing, the research team assessed data from the residents of 700 properties in Cornwall. They found that people living in more energy efficient homes had a greater risk of asthma, and that the presence of mould doubled this risk.

This study, published in the journal *Environment International*, builds on previous work showing that dampness and mould can increase the risk of allergic diseases. It is the first time scientists have been able to combine detailed asset management data with information about occupant behaviour and health, to assess the factors likely to contribute to asthma.

The United Kingdom has one of the highest occurrences of asthma in the world, with the disease presenting substantial economic and societal pressures. With the government releasing ± 30 million of funding this week for <u>energy efficiency</u> improvements, this study highlights the need for changes in the behaviour of residents benefitting from this type of scheme.

Researcher, Richard Sharpe, has been involved in the study and said: "We've found that adults living in energy efficient social housing may have an increased risk of asthma. Modern efficiency measures are vital to help curb energy use, and typically prevent heat loss through improved insulation and crack sealing. Yet some people, particularly those living in fuel poverty, are unlikely to heat a building enough - or ventilate it sufficiently - to prevent the presence of damp and mould, factors that we know can contribute to <u>asthma</u>."

The presence of mould was unable to fully explain the study's findings however, with poorly ventilated homes also likely to increase people's exposure to other biological, chemical and physical contaminants. The



study pointed to other possible factors which can affect health in homes with high humidity, such as house dust mites and bacteria.

Occupant behaviours often vary dramatically in different properties, with some people drying washing indoors or relying on older and less effective heating systems. These behaviours can increase the indoor humidity at a property, a problem which is sometimes worsened by energy efficient efforts to seal cracks and gaps.

Head of Technical Services at Coastline Housing, Mark England, said: "Energy efficiency measures are vital to help keep costs low and reduce the environmental impact of heating our homes. This research has given us an invaluable insight into how the behaviour of people living in fuel efficient homes can affect health. As a result, we're working to provide better information to customers on how to manage their indoor environment, including potential training of volunteer sustainability champions."

Provided by University of Exeter

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